

# **SNF Stabilization and Disposition (RL-0012)**

**M. W. Peres, Vice President of  
K Basins Closure Project / (509) 373-4815**

**D. G. Ruscitto, Vice President of  
Sludge Treatment Project / (509) 376-1998**

**R. E. Wilkinson, Vice President of  
Central Plateau D&D / (509) 373-9841**



***K Basins Closure Project -  
Multi-Canister Overpack  
shipment***



***Sludge Treatment Project –  
Knockout Pot (KOP) Mockup***



***K East D&D –  
Physical Demolition of  
K East Superstructure  
complete***

## Overview

This section addresses work in Project Baseline Summary (PBS) RL-0012, *Spent Nuclear Fuel (SNF) Stabilization and Disposition*. There are three major components to this work scope:

- K Basins Closure Project (KBC) [M. W. Peres].
- Sludge Treatment Project (STP) [D. G. Ruscitto].
- K East Basin Deactivation and Decommissioning (D&D) [R. E. Wilkinson].

NOTE: Unless otherwise noted, all information contained herein is as of September 30, 2008.

## Top FY 2008 Accomplishments

- **D&D:**
  - Completed removal of the K East Basin Superstructure (September).
  - Completed downgrade of the K East Basin (March).
- **KBC Project:**
  - Completed successful Operational Readiness Review for restart of Multi-Canister Overpack (MCO) operations at K West and the Cold Vacuum Drying Facility (CVDF).
  - Completed shipment of all found fuel from the K West Basin (shipped MCOs 387 and 388).
  - Completed all canister debris sorting from K West Basin.
  - Accepted three additional PAS-1 casks from Washington Closure with found fuel.
  - Completed K West final pass vacuuming.
- **STP:**
  - STP established a robust testing capability at the Maintenance and Storage Facility (MASF).

## Notable September Accomplishments

- **D&D:**
  - Completed removal of the K East Basin Superstructure (September 18, 2008).
  - Removed balance of K East Hose-in-Hose and disposed of it at ERDF.
- **KBC Project – Legacy Fuel Removal:**
  - Shipped MCO 388 to the Canister Storage Building (CSB) with found fuel from K West Basin.
- **STP:**
  - Completed 30 percent component designs for the above and below-water "Direct Grouting" systems.
  - Implemented DOE STD 1189 Safety-in-Design standard with the "Direct Grout" designs.
  - Initiated Alternatives Analysis per DOE O 413.3A and Critical Decision (CD)-1 guidance.
  - Completed analysis that allows the project to size separate the Knock-Out Pot (KOP) sludge stream, which will allow the >600 micron material to be handled in a similar process as Spent Nuclear Fuel.

## Issues

- **K East D&D Project**
  - Change from One Time Request for Shipping (OTRS) to Special Packaging Authorization (SPA) has added complexity to project requirements.
  - Hazards Analysis for the lower section of basin demolition.
- **KBC Project**
  - Major fuel processing equipment failures.
  - Maintaining qualified staff.
  - Multi-Canister Overpack (MCO) minimum weight.
- **STP**
  - FY2010 funding targets did not support processing KOP via the MCO alternative. This will limit project scope per the priorities reviewed with RL.
  - Uncertainty in disposal path for the KOP sludge, due to suspension of commingling with Settler Tank Sludge.
  - Addressing potential for a new Remote-Handled Transuranic (RH-TRU) waste storage facility.

## FY 2008 Funds vs. Actuals (\$M)

	September 2008 Actual Funding	FY 2008 Actual Costs	Variance
SNF Stabilization & Disposition	\$ 107.4	\$ 107.3	\$ 0.1

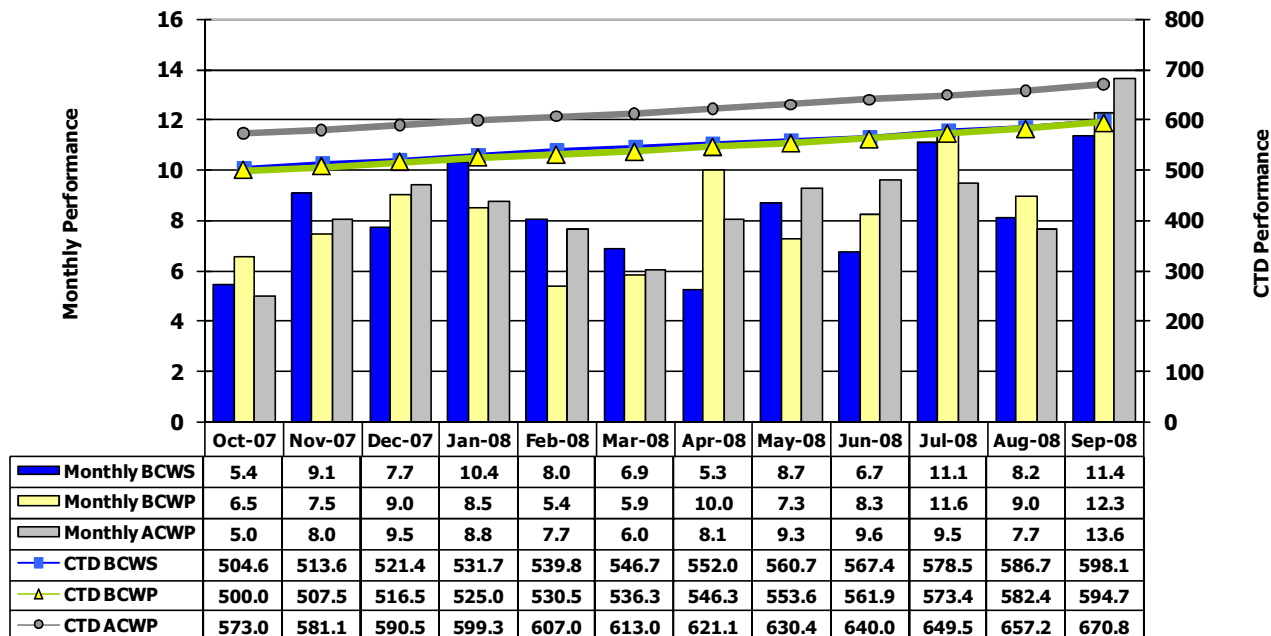
## Schedule/Cost Performance (\$M)

SNF Stabilization & Disposition	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance \$	Schedule Variance %	Cost Variance \$	Cost Variance %	Budget At Completion (FY08/ CTD)
Current Period (Month)	\$11.4	\$12.3	\$13.6	\$0.9	7.9%	-\$1.3	-10.8%	\$99.0
Cumulative-to-Date (FY 2004 - Present)	\$598.1	\$594.7	\$670.8	-\$3.4	-0.6%	-\$76.1	-12.8%	\$598.1

Numbers are rounded to the nearest \$0.1M and include the closure services allocation.

## Schedule/Cost Performance (\$M), continued

### Performance Analysis CTD and Monthly (\$M)



- CTD Schedule Performance (-\$3.4M/-0.6%):** Unfavorable SV is due to: delays in the STP due to slow start to Pacific Northwest National Laboratory (PNNL) activities for M-1 Loop, KOP retrieval design did not start as soon as planned, testing activities Statements of Work (SOWs), and KOP to MCO documentation; delays in Legacy Fuel work scope (MCO processing); and K East to K West Sludge Transfer System D&D.
- CTD Cost Performance (-\$76.1M/-12.8%):** The unfavorable CV is primarily due to problems encountered in design, implementation, startup, and operation of spent fuel removal, sludge containerization, and transfer systems. System complexity and requirements were underestimated. Most of the cost variances were incurred prior to FY 2006.

## Milestone Achievement

*Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) milestones and Defense Nuclear Facilities Safety Board (DNFSB) commitments represent significant events in project execution. DOE Enforceable Agreement milestones were established to provide high-level visibility to critical deliverables and specific status on the accomplishment of these key events. The FY 2008 Enforceable Agreement milestone/DNFSB commitment information provided herein is based upon the current baseline including RL-approved changes. Changes from month-to-month in both the total number of milestones to be completed and in the forecast status of upcoming milestones are the result of Baseline Change Requests (BCRs) approved during the reporting period.

Number	Title	Type (TPA/PI/ DNFSB)	Due Date *	Actual Date	Forecast Date	Status / Comments
M-034-33B (S10-05-018)	Complete K East Sludge Containerization	TPA	03/01/05	10/20/06		Complete
DNFSB 119E (S10-05-014)	Complete K East Bulk Sludge Consolidation	DNFSB	10/31/06	10/20/06		Complete
M-034-34 (S10-05-010)	Complete Removal of K East Sludge	TPA	05/31/07	05/31/07		Complete
DNFSB 120E (S10-05-015)	Complete K East Basin Containerized Sludge Removal	DNFSB	05/31/07	05/31/07		Complete
DNFSB 122E	K East Final Pass Sludge Removed	DNFSB	05/31/07	05/31/07		Complete
M-034-35a (S10-05-011)	Containerize K West Bulk Sludge	TPA	07/31/07	07/03/07		Complete
DNFSB 119W (S10-05-016)	Complete K West Bulk Sludge Containerization	DNFSB	07/31/07	07/03/07		Complete
M-034-35b (S10-05-011)	Complete K West Final Pass	TPA	01/31/08	12/27/07		Complete

\* DNFSB dates reflect Implementation Plan update, TPA dates reflect change package M-34-05-04.